

Health manpower forecasting: A systematic review for models and approaches

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Abstract

Background: An appropriate planning requires forecasting the demand and supply of health manpower in an accurate manner. **Objectives:** The paper objective was to review health manpower forecasting approaches and methods and propose the improvement features for effectiveness of health manpower planning. **Data sources:** A systematic review was conducted for studies published in English from 1970-2014 using Pub Med, Science Direct, Pro Quest, and Google Scholar databases. **Study eligibility criteria:** Review articles, qualitative studies, questionnaire driven surveys, retrospective and prospective studies describing or applying various types of forecasting approaches and methods in health manpower forecasting were included in the review. **Data collection and study appraisal:** Two reviewers (SR and MA) independently appraised the studies to identify relevant ones to be included in the review. **Results:** A total of 128 studies were included in the review. As a result, two main categories of approaches (conceptual and analytical) for health manpower forecasting were identified with their strengths and weaknesses. **Conclusions:** Future forecasting methods should benefit from advantages of current approaches and overcome some of their main limitations. Applying a method which incorporates a wide range of factors affecting supply and demand, facilitates the collection of good quality data, monitors changing trends over time, considers the uncertainty of health systems and has a dynamic approach is proposed as an improvement roadmap for future forecasting.